REMARKS

In the Office Action, claims 1-5, 7-12 and 14-23 were rejected under 35 U.S.C. § 102(b) as being anticipated by Danby et al., U.S. Patent No. 6,201,394 B1. Claims 6 and 13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Danby et al. The drawings were objected to due to certain informalities.

By this Response, claims 1, 2, 13, 17, 20 and 23 have been amended. No new matter has been added. The drawings have been amended to overcome the informality mentioned in the Office Action.

Upon entry of the amendments, claims 1-23 will be pending in this application. Reconsideration and allowance of all pending claims are respectfully requested in view of the arguments herein below.

Objection to the Drawings

The drawings were objected to because of certain informalities in thickness of lines, numbers and letters as well as height of numbers, letters and reference characters. The drawings have been replaced to obviate the objections raised in the Office Action. Review and acceptance of the replacement drawings are requested.

Rejections Under 35 U.S.C. § 102

Claims 1-5, 7-12 and 14-23 were rejected under 35 U.S.C. § 102(b) as being anticipated by Danby et al., U.S. Patent No. 6,201,394 B1. A *prima facie* case of anticipation under 35 U.S.C. § 102 requires a showing that each limitation of a claim is found in a single reference, practice or device. *In re Donohue*, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985). Applicants respectfully assert that the present invention, as recited in independent claims 1 and 17, 20 and 23, is patentable over the Danby reference. Claims 1, 17 and 23 are amended to clearly recite the claimed subject matter.

Claim 1 and the Claims Depending Therefrom.

Amended independent claim 1 recites an open magnetic resonance imaging (MRI) device. The MRI device includes a main coil for generating a magnetic field for imaging a volume. The MRI device further includes a plurality of shaping coils positioned radially inside the main coil and axially further from the volume than the main coil. The plurality of shaping coils may also be positioned in a plane of the main coil to shape the magnetic field in the volume.

The MRI apparatus, as described in the present application includes multiple shaping coils that are radially inside and axially outside further said volume. This arrangement is clearly illustrated in Figure 1 of the application, and described in the corresponding text.

The Danby et al. reference describes an open MRI system, which includes electromagnetic coils 48, 50 (see Figure 1) and additional flux shaping devices such as auxiliary coils 755 (described but not labeled in the figures).

However, even if the auxiliary coils and shimming coils of Danby et al. are considered to be shaping coils, in no embodiment described in the reference are there multiple shaping coils that are associated with a main coil that are radially inside the main coil and axially further from the imaging volume than the main coil or in a plane of the main coil.

Danby et al. cannot support a rejection of claim 1 as anticipated. Similarly, the claims depending from claim 1 are equally patentable both for the subject matter they separately recite, as well as by virtue of their dependency from an allowable base claim.

Claim 17 and the Claims Depending Therefrom.

Amended independent claim 17 recites a magnetic resonance imaging (MRI) apparatus for imaging a volume. The MRI apparatus includes at least one main coil configured to generate a magnetic field. The MRI apparatus also includes at least one bucking coil disposed axially outside the at least one main coil with respect to the volume and configured to shield the at least one main coil. A plurality of shaping coils are provided to shape the magnetic field in the volume. The MRI apparatus further includes a plurality of ferromagnetic rings for shielding interactions between coils of opposite polarity.

Among the elements of claim 17 not taught by Danby et al. is the bucking coil that shields the main coil, and that is disposed outside the main coil with respect to the volume. The Danby et al. reference describes a bucking element 256 (see Figure 8), that is disposed between the main coil and pole tip element or the volume. In no embodiment of the Danby et al. reference are there bucking coils that are disposed outside the main coil with respect to the volume.

Danby et al. reference cannot support a rejection of claim 17 as anticipated. Similarly, the claims depending from claim 17 are equally patentable both for the subject matter they separately recite, as well as by virtue of their dependency from an allowable base claim.

Claim 23 and the Claims Depending Therefrom.

Amended independent claim 23 recites an open magnetic resonance imaging (MRI) device. The MRI device includes first and second main coils for generating a magnetic field for imaging a volume. The MRI device also includes first and second sets of shaping coils positioned adjacent to each of the first and second main coils, respectively, each set of shaping coils being positioned radially within the respective

main coil and axially further from the volume than the respective main coil or in a plane of the respective main coil to shape the magnetic field in the volume.

As discussed above with respect to claim 1, the Danby et al. reference fails to describe or even suggest multiple shaping coils that are associated with each magnet that are radially inside a main coil and axially further from the imaging volume than the main coil or in a plane of the main coil.

Danby et al. therefore cannot support a rejection of claim 23 as anticipated.

Therefore, the present invention, as recited in amended independent claims 1, 17 and 23 is not anticipated by the Danby et al. reference. Claims 2-16 and claims 17-22 depend directly or indirectly from claim 1 and 17, respectively. Accordingly, Applicants submit that claims 2-16 and 17-22 are allowable by virtue of their dependency from allowable base claims, as well as for this subject matter they separately recite. Thus, it is respectfully requested that the rejection of claims 1-5, 7-12 and 14-23 under 35 U.S.C. §102(b) be withdrawn.

Rejections Under 35 U.S.C. § 103

Claims 6 and 13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Danby et al. For a *prima facia* case of obviousness, the Examiner must set forth the differences in the claim over the applied reference, set forth the proposed modification of the reference, which would be necessary to arrive at the claimed subject matter, and explain why the proposed modification would be obvious.

The Danby et al. reference does not teach, suggest or disclose each and every aspect of Applicants' recited invention as claimed in the amended independent claim 1. Claims 6 and 13 depend directly or indirectly from claim 1, and are

allowable by virtue of such dependency, as well as for the subject matter they separately recite. Thus, it is respectfully requested that the rejection of claims 6 and 13 under 35 U.S.C. §103(a) be withdrawn.

Conclusion

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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IN THE DRAWINGS

Please replace the entire drawings as originally filed with the drawings attached with the present Response.